

USSR

UDC 536.62.08(088.8)

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"Calorimeter for the Determination of Heat of Extraction Processes"

USSR Author's Certificate No 251871, filed 30 Jan 68, published
6 Feb 70 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8,
Aug 70, Abstract No 8.32.643 F)

Translation: Design is proposed of a calorimeter for the deter-
mination of heat of the extraction processes. The calorimetric
vessel is made in the shape of a glass with a ground glass stopper
and thermal-insulating jacket. Into the glass is placed coaxially
an inner glass with a short wide tube in the bottom over which is
mounted a glass cover with air plug and which is designed for the
separation of reacting phases. The mixer is mounted into the
tube soldered into the cover of the calorimetric vessel. The
temperature of the system is measured by a thermistor connected
to a dc bridge with mirror galvanometer which serves as the source
of zero-indicator. The accuracy of temperature measurements is
 $\pm 0.0003^{\circ}\text{C}$. 1 ill.

V. S. K.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXTRACTION OF FLUORIDE IONS BY METAL BIS(2,ETHYL,HEXYL) PHOSPHATES
-U-
AUTHOR--(02)-KLETENIK, YU.B., BYKHOVSKAYA, I.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 351-7 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUORIDE, ION, PHOSPHATE, CHEMICAL ANALYSIS, SOLVENT
EXTRACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1902 STEP NO--UR/0075/70/025/002/0351/0357
CIRC ACCESSION NO--AP0118864
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118864

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. F CAN BE EXTG. IN THE PRESENCE OF CERTAIN METALS BY SOLNS. OF BIS(2-ETHYLHEXYL) H PHOSPHATE (I) IN VARIOUS DILUENTS. THE EXTN. DEPENDS TO A GREAT EXTENT ON THE NATURE OF THE DILUENT AND IS THE MOST COMPLETE FOR TETRAVALENT METALS. DURING THE EXTN. WITH 0.2N ACID SOLNS. THE F DISTRIBUTION COEFF. DOES NOT DEPEND ON THE NATURE OF THE MINERAL ACID AND IS EQUAL TO 20-5. WHEN THE ACID CONCN. INCREASES, THE COEFF. INCREASES AS WELL, AND IS THE HIGHEST IN THE PRESENCE OF HClO SUB4. THE MOST EFFECTIVE EXTRANT IS ZR BIS(2,ETHYLHEXYL) PHOSPHATE. THE EQUIL. IS ATTAINED RAPIDLY. THE M:F RATIO IN THE EXTG. COMPLEX IS 1:1. CONDITIONS FOR F STRIPPING WERE FOUND AND A METHOD FOR F DETN. IN THE STRIPPING SOLN. WAS PRESENTED. MIX 10 ML OF THE SAMPLE AND 2-5N ACID (H SUB2 SO SUB4, HCL, HClO SUB4) WITH 10 ML I IN HEXANE CONTG. 45 MG ZR FOR 1 MIN, WASH THE EXT. TWICE WITH 5 ML 2N HCL BY SHAKING FOR 1 MIN AND REEXT. F WITH 2 ML BU SUB3 PO SUB4, 1 ML NE SUB2 CO, AND 10 ML 0.35N NaOH, THEN WITH 10 ML 0.1N NaOH, BY SHAKING FOR 15 MIN EACH TIME. ACIDIFY THE COMBINED EXTS. WITH 2 ML 5N HCL, DIL. TO 50 ML WITH H SUB2 O, FILTER, AND DET. F PHOTOMETRICALLY IN AN ALIQUOT. FACILITY: INST. PHYSICOCHEM. PRIME. MINER. RAW MATER. PROCESS., NOVOSIBIRSK, USSR

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE TECHNIQUE OF RESEARCHING METAL EXTRACTIONS RATE DEPENDENCE ON
SPECIFIC PHASE DIVISION SURFACES -U-
AUTHOR--(03)-KLETENIK, YU.B., NAVROTSKAYA, V.A., PUTAPOVA, A.I.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 13-18
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EXTRACTIVE METALLURGY, INDIUM, IRON, PHOSPHORIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0564

STEP NO--UR/0289/70/000/000/0013/0018

CIRC ACCESSION NO--AP0113455

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPERIMENTAL TECHNIQUE FOR THE QUANTITATIVE RESEARCH OF METAL EXTRACTION RATE DEPENDENCE ON THE SPECIFIC PHASE DIVISION SURFACE IN SYSTEMS WITH SLOW ESTABLISHMENT OF EXTRACTION EQUILIBRIUM IS SUGGESTED. THIS TECHNIQUE IS BASED ON RECIPROCATING MIXER UTILISATION HAVING EXTENSIVELY VARIABLE AND SUFFICIENTLY STABLE MIXING RATE. PHASE DIVISION SPECIFIC SURFACE IS MEASURED BY MEANS OF LIGHT TRANSMISSION. THE SLOW STAGE OF IRON AND INDIUM EXTRACTION PROCESSES WITH THE HELP OF DIALKYL PHOSPHORIC ACIDS IS STATED TO HAVE A HETEROGENOUS NATURE. CONSIDERATIONS WERE MADE OF TWO TYPES OF EXTRACTION RATE DEPENDENCE ON SPECIFIC PHASE DIVISION SURFACE, CORRESPONDING TO TWO ESSENTIALLY DIFFERENT TYPES OF SLOW PROCESS STAGE, HOMOGENOUS AND HETEROGENOUS ONES.

FACILITY: INSTITUT FIZIKO

KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR'YA, NOVOSIBIRSK.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TREATMENT OF PIG IRON WITH LADLE ADDITIONS TO INCREASE THE SERVICE
LIFE OF HEAVY CORRUGATED INGOT MOLDS -U-
AUTHOR-(02)-KLETSKIN, G.I., BYCHKOV, YU.B.

COUNTRY OF INFO--USSR

SOURCE--LITEINDE PROIZV., MAR. 1970, (3), 11-12

DATE PUBLISHED---MAR70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--OPEN HEARTH FURNACE, GRAPHITE, MOLDING MATERIAL, ZIRCONIUM,
ALUMINUM, TITANIUM, PIG IRON, METAL CASTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3004/1936

STEP NO--UR/0128/70/000/003/0011/0012

CIRC ACCESSION NO--AP0132198

INFO ACCESSION

ON CASTING STEEL FROM OPEN HEARTH FURNACES AND O CONVERTERS CAN BE REDUCED BY LADLE ADDITIONS OF 2-3 KG PER TON OF TI SPONGE. THE TI EXTRACTS N FROM THE MELT, THUS FACILITATING GRAPHITIZATION IN THE EUTECTIC AND EUTECTOID RANGES, AND INCREASING THE PURITY AND PLASTICITY OF THE ALPHA IRON CRYSTALLITES AND THE SIZE OF THE GRAPHITE INCLUSIONS (AVOIDANCE OF TYPE I AND II CRACKING). ZR AND AL LADLE ADDITIONS ARE INEFFECTIVE IN THIS CONNECTION.

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EVALUATION OF THE PROPERTIES OF CAST IRON BY CHEMICAL AND
THERMOGRAPHIC ANALYSES -U-
AUTHOR--(04)-LEVI, L.I., KLETSKIN, G.I., SOBOL, N.L., KITAYEV, YA.A.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROZIVED. 1970, 2, 7-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CAST IRON, ALLOY COMPOSITION, MECHANICAL PROPERTY,
THERMOGRAPHIC ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1733 STEP NO--UR/0128/70/002/000/0007/0008
CIRC ACCESSION NO--AP0118711
UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0132198
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WEAR OF NODULAR CAST IRON MOULDS

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118711

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. INTERVAL OF SOLIDIFICATION CAN BE DETD. RAPIDLY IN 1-5 MIN BY A THERMOGRAPHICAL METHOD AND FOR STABLE CONDITIONS IT CAN BE USED FOR THE EVALUATION OF MECH. PROPERTIES OF CAST IRONS. THE RELIABILITY OF THIS PROCEDURE WAS VERIFIED WITH 3 KINDS OF CAST IRONS A, B, AND C. (C 2.84-3.31, 3.07-3.34, 3.15-3.40; SI 1.21-2.84, 1.31-1.84, 1.80-2.30; AND MN 0.08-1.72, 0.80-1.63, 0.60-1.10 WT. PERCENT, RESP.) REGRESSION EQUATIONS WERE DETD. FOR TENSILE STRENGTH AND HARDNESS IN DEPENDENCE ON THE TEMP. INTERVAL OF CRYSTN. FROM THERMOGRAPHICAL ANALYSES. SIMILAR EQUATIONS WERE DETD. FOR TENSILE STRENGTH AND HARDNESS IN DEPENDENCE ON THE CONC. OF SI AND C FROM CHEM. ANALYSES. BOTH THERMOGRAPHICAL AND CHEM. METHODS GAVE ANALOGOUS CORRELATION COEFFS. FOR EACH OF THE 3 CAST IRONS, THE BEST COEFF. WAS OBTAINED FOR THE CAST IRON WHICH HAD THE MOST STABLE CHEM. COMP. OF CHARGING MATERIALS.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EVALUATION OF THE PROPERTIES OF CAST IRON BASED ON CHILL TESTS -U-
AUTHOR--LEVI, L.I., KLETSKIN, G.I., SOBOL, N.L., KITAYEV, YA.A.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, (1), 6-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CAST IRON, SILICON, METALLURGIC PROCESS CONTROL, TENSILE
STRENGTH, METAL HARDNESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1318 STEP NO--UR/0128/70/000/001/0006/0007
CIRC ACCESSION NO--AP0106095
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106095

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF INDUSTRIAL CONTROL DATA AN ATTEMPT WAS MADE TO CORRELATE TENSILE STRENGTH AND HARDNESS VALUES WITH RESULTS OF THE CHILL TEST FOR 2 GRADES OF GRAY CAST IRON MELTED IN AN 11 TON COKE GAS CUPOLA WITH PREHEATED BLAST (C 2.84-3.31, 3.07-3.34; SI 1.21-2.84, 1.31-1.84; MN 0.80-1.72, 0.80-1.63; P 0.25, 0.25, S 0.11, 0.11 WT. PERCENT, RESP.). THE 1ST CAST IRON WAS MODIFIED WITH CA 0.4-1.1PERCENT, WHILE THE 2ND WAS UNMODIFIED. STUDIED CAST IRONS WERE CAST INTO DRY MOLDS DIAM. 30, LENGTH 340 MM, AS WELL AS IN CHILL TEST MOLDS, REPRESENTING PLATES 50 TIMES 20 AND 50 TIMES 8, RESP., IN WHICH THE ONE SIDE WAS COOLED BY A MASSIVE METAL BLOCK. REGRESSION EQUATIONS WERE CALCD. FOR THE TENSILE STRENGTH AND HARDNESS DETNS.; THESE DID NOT SHOW ANY SIGNIFICANT CORRELATION. THE REASON FOR THIS WAS THAT SI CONCN. AFFECTED THE FORMATION OF CEMENTITE LAYER 5-7 TIMES MORE STRONGLY THAN IT AFFECTED THE TENSILE STRENGTH AND HARDNESS.

UNCLASSIFIED

USSR

UDC: 621.391.8

ZACHEPITSKIY, A. A., ~~KLETSKINA, G. I.~~, PAKHOMOV, Yu. I.

"Discrimination of Two Linear Frequency-Modulated Pulse Signals in a Circuit Comprised of a Limiter and a Matched Filter"

Kiev, IVUZ: Radioelektronika, Vol 15, No 3, Mar 72, pp 350-356

Abstract: It is assumed that the sum of two narrow-band signals which are partially time-coincident acts on the input of a circuit made up of a non-linear element and a matched filter connected in series. Expressions are found for the signals leaving the output of the linear element and at the output of the matched filter. It is shown that clipping leads to distortion of the principal signals and to additional satellite signals which are displaced in time relative to the principal signals. Estimates are given for the parameters of these signals with various degrees of overlap, and the results of experiments are presented. As a whole, the qualitative effects and quantitative laws of the theory were confirmed by the experimental results.

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USSR

UDC 621.762.2:669.1

BONDARENKO, A. V., KALMYKOV, Yu. V., KUTNYAKHOVA, V. M., and KLETSKO, G. P.

"Electrocrystallization of Powders of Iron and Alloys of Iron With Cobalt and Nickel Using Acoustical Oscillations"

Ul'trazvuk. metody intensivifik. tekhnol. protsessov [Ultrasonic Methods of Intensifying Technological Processes -- collection of works] (Moscow Institute of Steels and Alloys, 60), Moscow, 1970, pp 212-215 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G436 by the authors)

Translation: Results are presented from a study of the process of precipitation of Fe and its alloys on a grooved cathode oscillating at 100 Hz by electrocrystallization from aqueous sulphate solutions. The possibility of increasing the current density and other parameters during electrolytic powder production is clarified. 1 figure; 2 tables.

1/1

USSR

UDC 669.71.472

2

AMEL'KOVICH, D. I., VEDERNIKOV, G. F., DROBNIS, V. F., KLETSKO, N. L., OGURTSOV, G. M., SHIFMAN, G. A.

"Selection and Testing of Carbon Mass for Fastening of Nipples in Roasted Anodes"

Tr. Vses. N-i. i Projektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 71, pp. 111-117. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G156 by the authors).

Translation: Results are presented from laboratory and industrial testing of roasted anodes with nipples fastened in their carbon masses. The mass was packed into anodes with one square or cylindrical nipple receiver. The thickness of the layer of packed mass was 10-15 mm. The method of fastening of the nipples into the roasted anodes using the carbon mass allowed reliable suspension of the anodes, significantly decreased the voltage drop at the nipple-anode contact, and also simplified the process of pressing of anodes due to the elimination of the screw thread in the nipple receptacle. 4 figs; 2 tables.

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USSR

UDC: 621.397:621.396.61(088.8)

PETRAKOV, A. V., GOROKHOV, V. P., KLEVALIN, V. A.

"A Method of Measuring the Stability of a Television Transmitting Tube Raster"

USSR Author's Certificate No 283333, filed 28 Jun 68, published 3 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6G177 P)

Translation: A method is proposed for measuring the stability of the raster of a television transmitting tube by transmitting a test-pattern image on the target of the tube and measuring the parameters of the video signal. To simplify the equipment when measuring the stability of the raster with respect to lines, the image of the test pattern is projected in the television transmitting tube in the form of vertical lines, and the difference in the number of video pulses in the same line at different times is measured. A modification of this method of measurement is also proposed which is distinguished by the fact that the equipment is simplified when frame stability of the raster is measured by projecting an image on the target of the TV transmitting tube in the form of triangles in contrasting colors, the centers of the altitudes being located at the boundaries of the raster, and measuring the difference in the lengths of video pulses in the same lines at different times.

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USSR

K UDC 536.248.2.001.5

BAKLASTOV, A. M., and KLEVTSOV, A. V.

"Studies of Change in Pressure and Coefficient of Friction during Condensation of Moving Vapor in a Slotted Conduit"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Sekts. Promteploenergetiki. Podseks. Sushil'n i teploobmen. ustroistv (Reports of the Scientific-Technical Conference on Summaries of Scientific Research Work for 1968-1969. Industrial Thermal Engineering Section, Subsection on Desiccating and Heat Transfer Devices), Moscow Power Engineering Institute, 1970, pp 91-95 (from RZh-Teploenergetika, No 5, May 70, Abstract No 5G91)

Translation: Experimental values are determined for coefficient of friction in condensates of water vapor, ethyl alcohol and benzol, passing through a slotted channel 1.1mm wide by 300mm long. The channel is formed by two parallel walls of sheet brass, one of which is cooled and the other insulated. Two figures, five references.

1/1

1/2 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--SPECTROSCOPIC PROPERTIES OF KY (MOO SUB4) SUB2 SINGLE CRYSTALS
ACTIVATED BY ND PRIME3 POSITIVE -U-

AUTHOR--(03)-KAMINSKIY, A.A., PAVLYUK, A.A., KLEVTSOV, P.V.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(2), 292-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SINGLE CRYSTAL, SPECTROSCOPIC ANALYSIS, LUMINESCENCE, CALCIUM
COMPOUND, TUNGSTEN COMPOUND, MOLYBDENUM COMPOUND, NERDYMIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0089

STEP NO--UR/0051/70/028/002/0292/0296

CIRC ACCESSION NO--AP0054886

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--A00054886

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ABSORPTION AND LUMINESCENCE SPECTRA OF KY (MOO SUB4) SUB2 SINGLE CRYSTALS, CONTG. UP TO 10 AT. PERCENT ND PRIME3 POSITIVE WERE DETD. AT 300 AND 77DEGREESK; A DETAILED ANAL. OF THE SPECTRAL TERMS IS PRESENTED. NO IONS OCCUPIED Y LOCATIONS, AND ONLY 1 TYPE OF ACTIVATING CENTERS WAS OBSD. THE ENVIRONMENT OF ND PRIME3 POSITIVE IN KY (MOO SUB4) SUB2 CRYSTALS RESEMBLED THAT IN CAWO SUB4 CRYSTALS. THE LIFETIMES OF THE EXCITED STATES, DETD. AT 300 AND 77DEGREESK, DECREASED SHARPLY WHEN THE ND PRIME3 POSITIVE CONC. WAS GREATER THAN 2.5PERCENT. A SIMILAR PATTERN WAS OBSD. FOR THE LINEWIDTHS OF THE MOST INTENSE LUMINESCENCE TRANSITIONS, PRIME4 J SUBTHREE-HALVES YIELDS PRIME4 I SUBELEVEN-HALVES, WHICH INCREASED SHARPLY WITH THE ND CONC. ABOVE 2.5 AT. PERCENT.

UNCLASSIFIED

U35
UNCLASSIFIED
TITLE--CRYSTALLOGRAPHIC STUDY OF THE DOUBLE TUNGSTATE LIFE(WO SUB4) SUB2
-U-
AUTHOR--(02)-KLEVTSOV, P.V., KLEVTSOVA, R.F.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 294-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--CRYSTALLOGRAPHY, TUNGSTATE, LITHIUM COMPOUND, IRON COMPOUND,
SINGLE CRYSTAL, THERMAL ANALYSIS, DEBYE LENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/0907
CIRC ACCESSION NO--AP0116417
STEP NO--UR/0070/70/015/002/0294/0298
UNCLASSIFIED

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2/2 035

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116417

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY OF LIFE(WO SUB4) SUB2 BY THERMOGRAPHIC ANAL. AND A STUDY OF THE DEBYE DIFFRACTION PATTERNS SHOWED THAT IT DOES NOT UNDERGO ANY POLYMORPHIC TRANSFORMATIONS DURING HEATING, M. 1035DEGREES. SINGLE CRYSTALS WERE OBTAINED BY CRYSTN. FROM A SOLN. IN A LI BITUNGSTATE MELT UNDER CONDITIONS OF SLOW COOLING. THE CRYSTALS HAVE A (FE,MN)WO SUB4 TYPE STRUCTURE (D. ULKU, 1967). THE LI PRIME POSITIVE AND FE PRIME3 POSITIVE CATIONS ARE SITUATED IN AN ORDERED WAY IN THE STRUCTURE RESULTING IN A DOUBLING OF THE LATTICE PARAMETERS A AND B AS COMPARED TO C FOR THE WOLFAMITE: A EQUALS 9.26, B EQUALS 11.38, C EQUALS 4.91 ANGSTROM; BETA EQUALS 90.3DEGREES; SPACE GROUP C2-C. HIGH TEMP. X RAY DIFFRACTION WAS USED TO STUDY THE LINEAR EXPANSION OF THE CRYSTALS UP TO 650DEGREES. THE AV. COEFFS. OF LINEAR EXPANSION ALPHA SUBB AND ALPHA SUBC ON THE LINEAR SEGMENT OF THE TEMP. CURVES FOR THESE LATTICE PERIODS ARE QUITE SIMILAR (SIMILAR TO 11.5 TIMES 10 PRIME NEGATIVE6-DEGREE); ALPHA SUBA EQUALS 14.4 TIMES 10 PRIME NEGATIVE6-DEGREE. FACILITY: INST. NEORG. KHM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

Acc. Nr.

AP0048487

Abstracting Service:

CHEMICAL ABST. 5/10

Ref. Code:

UR0070

1047401 Synthesis and polymorphism of crystals of double lithium tungstates of rare-earth elements and yttrium. ~~Klyetsov, P. V., Kozeeva, L. P. (Inst. Neorg. Khim., Novosibirsk, USSR). Kristallografiya 1970, 15(1), 57-61 (Russ). A no. of $\text{LiLn}(\text{WO}_4)_2$ were synthesized by the method of spontaneous crystn. from soln. in Li tungstate melts upon programmed decrease of the temp. Li compds. of the rare-earth element series from La to Gd (except for Ce) crystd. in the tetragonal system of the scheelite type. For elements from Er to Lu and Y, crystals of monoclinic structure were obtained, while synthesis products contg. Ho, Dy, and Tb crystd. in both modifications. As a result of heating, the monoclinic modification transformed to the tetragonal structure, whereas the opposite process, developed by cooling, was achieved with great difficulty, and the scheelite structure of the compds. remained stable at room temp. Its stability increased with decreasing at. no. of the rare-earth elements, accordingly to the temp. drop of polymorphic transformation.~~

J. Pabis-Machej

REEL/FRAME
19800195

180t

016

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--HYDROTHERMAL SYNTHESIS OF SAMARIUM, EUROPIUM, AND GADOLINIUM
TUNGSTATES -U-
AUTHOR--(02)-KHARCHENKO, L.YU., KLEVTSOV, P.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 594-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SAMARIUM COMPOUND, EUROPIUM COMPOUND, GADOLINIUM COMPOUND,
TUNGSTATE, CHEMICAL SYNTHESIS, SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0907

STEP NO--UR/0363/70/006/003/0594/0596

CIRC ACCESSION NO--AP0118076

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118076

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. KLN(WO SUB4) SUB2, WHERE LN EQUALS SM, EU, AND GO, WERE PREPD. FROM MIXTS. OF OXIDES AND CARBONATES (LN SUB2 O SUB3-WO SUB3 EQUALS 1:3, K SUB2 CO SUB3-LN SUB2 O SUB3 EQUALS 1:1:4) DURING CRYSTN. IN 19-50PERCENT KCL SOLNS. AT 500-50DEGREES AND WITH THE AUTOCLAVES BEING FULLED UP TO 60-70PERCENT. THE 2 PHASES KLN(WO SUB4)SUB2 AND LNWO SUB4 OH CRYSTALLIZE SIMULTANEOUSLY UNDER THE EXPTL. CONDITIONS. CHEM. ANAL. CONFIRMED THE FORMULA KSM(WO SUB4)SUB2 FOR THE SM TUNGSTATE. THE HEATING AND COOLING CURVES OF KLN(WO SUB4)SUB2 SHOWED THAT THESE COMPS. MELT CONGRUENTLY AT 1050-80DEGREES AND THAT PRIOR TO THE M.P. (AT 40-70DEGREES BELOW THE M.P.) THEY UNDERGO A REVERSIBLE PHASE TRANSITION, WHICH IS ASSOCD. WITH THE POLYMORPHIC PHASE TRANSFORMATION. THIS PHASE TRANSFORMATION IN THE KLN(WO SUB4)SUB2 MAY BE THE REASON WHICH MAKES DIFFICULT THE GROWING OF THEIR SINGLE CRYSTALS FROM THE MELT. DIFFRACTION PATTERNS SHOW THAT THE HYDROXY TUNGSTATES OF THESE ELEMENTS ARE ISOSTRUCTURAL WITH EACH OTHER AND WITH MONOCLINIC NDWO SUB4 OH AND PRWO SUB4 OH. THEIR IR PATTERNS SHOW THAT THESE COMPS. DO NOT CONTAIN WATER AS H SUB2 O MOLS. THE ABSORPTION BAND IN THE 3550 CM PRIME NEGATIVE REGION CORRESPONDS TO THE VALENCY VIBRATIONS OF THE OH PRIME NEGATIVE GROUP. LNWO SUB4 OH WHEN HEATED IN AIR AT 575-650DEGREES DECOMPS. TO FORM OF LN SUB2 W SUB2 O SUB9; THIS WAS ALSO CONFIRMED BY IR AND X RAY STUDIES. EU SUB2 W SUB2 O SUB9 AND GOH SUB2 O SUB9 WERE PREPD. THIS WAY AND INDEXED. FACILITY:

UNCLASSIFIED

1/2 024
UNCLASSIFIED
TITLE--SYNTHESIS AND CRYSTALLOGRAPHIC STUDY OF THE OXYTUNGSTATE CHLORIDES
LN SUB3 WO SUB6 CL SUB3, LN IS CE, PR, OR NO -U-
AUTHOR--(03)--KHARCHENKO, L.YU., KLEVTSOV, P.V., POLYANSKAYA, T.M.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1286-8
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--CRYSTALLOGRAPHY, TUNGSTATE, SINGLE CRYSTAL, CHLORIDE, RARE
EARTH COMPOUND, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1248

STEP NO--UR/0020/70/191/006/1286/1288

SECTION NO--AT0138259 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 024

CIRC ACCESSION NO--AT0138259

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNTHESIS AND CRYSTALLOGRAPHIC STUDIES OF OXYTUNGSTATE CHLORIDES, CRYSTD. FROM AN ANHYD. SOLN. CONTG. LIF, WERE MADE. THE FORM OF LN SUB3 WO SUB6 CL SUB3 SINGLE CRYSTALS CRYSTALLIZE EITHER AS ELONGATED HEXAGONAL PRISMS OR THIN HEXAGONAL PLATES; SINGLE CRYSTALS ARE RELATED TO THE L SUB6 PC CLASS WITH THE LATTICE PARAMETER RATIO C-A EQUALS 0.57. THE CHEM. FORMULA OF THE LN SUB3 WO SUB6 CL SUB3 COMPD. WAS DETD. BY CHEM. ANAL. AND STRUCTURAL ANAL. FOR NO OXYTUNGSTATE CHLORIDE, THE COMPN. WAS NO 51.9, W 23.4, CL 12.3PERCENT; NO ALKALI METALS WERE DETECTED. X RAY POWDER DIFFRACTION PATTERNS REVEALED THE ISOSTRUCTURAL CHARACTER OF LN SUB3 WO SUB6 CL SUB3; FOR PR SUB3 WO SUB6 CL SUB3 THE LATTICE PARAMETERS ARE A 9.314 AND C 5.269 ANGSTROM. DECOMPN. OF THE LN SUB3 WO SUB6 CL SUB3 COMPS. BEGINS AT 1000DEGREES, WHILE HEATING IN AIR AT 1100DEGREES FOR 5 HR COMPLETELY DECOMPS. THE COMPD. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

UDC: 8.74

USSR

KLEVTSOV, V. P., LYAUDIS, V. Ya.

"Concerning the Structure of the Memory Process and Modeling of This Structure"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 60-62 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1108)

Translation: The structure of the process of the human permanent memory is considered on the basis of experimental psychological studies. The results of mathematical and physical modeling of the processing and storage of information on the lower levels of visual perception are presented. Use of the properties of neurons enables the description of an image with any required accuracy.

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USSR

STUPNIKOV, A. A. and ~~KLEVTISOV, Ye. D.~~

"A Conference on Respiratory Diseases of Poultry"

Moscow, Veterinariya, No 1, 1972, pp 124-125

Abstract: The above conference was held in June 1971 in the city of Pyatigorsk. Papers were read on "industrialization diseases" of birds (A. A. Pak), organization of measures to prevent and eradicate Newcastle disease (M. I. Chagayev), status of research on the etiology, diagnosis, prevention, and eradication of respiratory diseases of poultry (V. N. Syurin), specific prevention of Newcastle disease in infected regions (B. M. Savich), evaluation of postvaccinal immunity to Newcastle disease (R. N. Korovin), infectious laryngotracheitis (V. V. Malushko), infectious bronchitis (A. B. Teryukhanov), respiratory mycoplasmosis (O. V. Vinokhodov), disinfection of poultry houses (A. A. Zakomyrdin), cultural virus vaccine against Newcastle disease and infectious laryngotracheitis (A. V. Khachatryan), rapid methods for diagnosing Newcastle disease and classical fowl plague in poultry (G. A. Safonova), methods of mass immunization of poultry against Newcastle disease (I. M. Bondarenko), simultaneous vaccination of poultry against Newcastle disease and smallpox (A. B. Kachakhidze), simultaneous

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USSR

STUPNIKOV, A. A. and KLEVTSOV, Ye. D., Veterinariya, No 1, 1972, pp 124-125

vaccination of hens against smallpox and infectious laryngotracheitis (A. B. Kachakhidze), improved inactivated vaccine against Newcastle disease (I. G. Skutarya), standardized preparation of specific fluorescent antibodies to classical fowl plague and Newcastle disease (A. F. Shurchilova), use of aerosols of antimicrobial preparations in poultry raising (V. D. Sokolova), and genetic basis for increasing the resistance of poultry to mycoplasmosis (A. S. Serebryakov).

USSR

~~KLEVTSOVA, R. F.~~; BELOV, N. V. (Institute of Inorganic Chemistry, Siberian
Department of the USSR Academy of Sciences)

"Variation of a Single Wolframite Motive in $\text{LiYb}(\text{WO}_4)_2$, $\text{LiFe}(\text{WO}_4)_2$, and $\text{NaFe}(\text{WO}_4)_2$
Structures"

Moscow, Kristallografiya; January-February, 1970; pp 43-6

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ABSTRACT: The structure of $\text{LiYb}(\text{WO}_4)_2$ is determined, and structural data obtained is compared with other $\text{LiFe}(\text{WO}_4)_2$ and $\text{NaFe}(\text{WO}_4)_2$ binary wolframates studied earlier. The relation in the structures of binary wolframates and FeWO_4 wolframite is analyzed.

The article includes three tables. Table 1 gives the coordinates of the basal atoms in the structure of $\text{LiYb}(\text{WO}_4)_2$; Table 2 gives the basic inter-atomic distances in the structure of $\text{LiYb}(\text{WO}_4)_2$; Table 3 lists the parameters of the monoclinic cells and Fedorov symmetry groups.

There are 7 bibliographic references.

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1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--VARIATIONS ON A SINGLE WOLFRAMITE MOTIF IN LIYB (WO SUB4) SUB2,
LISTING SUB4) SUB2, AND NAFE(WO SUB4) SUB2 STRUCTURES -U-
AUTHOR--KLEVTSOVA, R.F., BELOV, N.V.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(1) 43-6
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, CHEMISTRY
TOPIC TAGS--TUNGSTEN, METAL ORE, CRYSTAL, MINERAL, TUNGSTATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/0019 STEP NO--UR/0070/70/015/001/0043/0046
CIRC ACCESSION NO--AP0102119
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 017

CIRC ACCESSION NO--AP0102119

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. LIYB(WO SUB4) SUB2 CRYSTALLIZES IN THE P2-C SPACE GROUP WITH A 9.89, B 5.77 AND C 4.98 ANGSTROM, BETA 93.5DEGREES, Z EQUALS 2 AND R 0.112. CRYSTALS OF THE TITLE COMPOS. HAVE UNIT CELL DIMENSIONS VERY SIMILAR TO THE CRYSTALS OF FEWO SUB4 WITH A WHICH IS 4.73 ANGSTROM IN FEWO SUB4. THIS DOUBLE INCREASE OF THE UNIT CELL VOL. FOR THE DOUBLE SALTS CORRESPONDS TO TWICE AS MANY ZIG ZAG ARRANGED CHAINS OF WO SUB4 OCTAHEDRONS PARALLEL TO THE C AXIS IN THE UNIT CELL.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CRYSTALLOGRAPHIC STUDY OF THE DOUBLE TUNGSTATE LIFE(WO SUB4) SUB2
-U-
AUTHOR--(02)-KLEVTSOV, P.V., KLEVTSOVA, R.F.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 294-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CRYSTALLOGRAPHY, TUNGSTATE, LITHIUM COMPOUND, IRON COMPOUND,
SINGLE CRYSTAL, THERMAL ANALYSIS, DEBYE LENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/0907

STEP NO--UR/0070/70/015/002/0294/0298

CIRC ACCESSION NO--AP0116417

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 035

CIRC ACCESSION NO--AP0116417
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE STUDY OF LIFE(WO SUB4) SUB2 BY THERMOGRAPHIC ANAL. AND A STUDY OF THE DEBYE DIFFRACTION PATTERNS SHOWED THAT IT DOES NOT UNDERGO ANY POLYMORPHIC TRANSFORMATIONS DURING HEATING, M. 1035DEGREES. SINGLE CRYSTALS WERE OBTAINED BY CRYSTN. FROM A SOLN. IN A LI BITUNGSTATE MELT UNDER CONDITIONS OF SLOW COOLING. THE CRYSTALS HAVE A (FE,MN)WO SUB4 TYPE STRUCTURE (D. ULKU, 1967). THE LI PRIME POSITIVE AND FE PRIME3 POSITIVE CATIONS ARE SITUATED IN AN ORDERED WAY IN THE STRUCTURE RESULTING IN A DOUBLING OF THE LATTICE PARAMETERS A AND B AS COMPARED TO C FOR THE WOLFAMITE: A EQUALS 9.26, B EQUALS 11.38, C EQUALS 4.91 ANGSTROM; BETA EQUALS 90.3DEGREES; SPACE GROUP C2-C. HIGH TEMP. X RAY DIFFRACTION WAS USED TO STUDY THE LINEAR EXPANSION OF THE CRYSTALS UP TO 650DEGREES. THE AV. COEFFS. OF LINEAR EXPANSION ALPHA SUBB AND ALPHA SUBC ON THE LINEAR SEGMENT OF THE TEMP. CURVES FOR THESE LATTICE PERIODS ARE QUITE SIMILAR (SIMILAR TO 11.5 TIMES 10 PRIME NEGATIVE6-DEGREE); ALPHA SUBA EQUALS 14.4 TIMES 10 PRIME NEGATIVE6-DEGREE. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

Acc. Nr.

AP0048471

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code

UB0070

104886w Crystalline structure of $\text{Pr}_2\text{W}_2\text{O}_9$. Borisov, S. V.; Kleytsova, R. F. (Inst. Neorg. Khim., Novosibirsk, USSR). *Kristallografiya* 1970, 15(1), 38-42 (Russ). $\text{Pr}_2\text{W}_2\text{O}_9$ crystallizes in the $P2_1/c$ space group with unit-cell dimensions a 7.70, b 9.84, and c 9.27 Å, β 106.5°, and $Z = 4$. Both W atoms have a distorted octahedron coordination with a W-O distance of 1.73-2.23 Å. The octahedrons are connected by the W-W edge of 3.293 Å and form a zig-zag chain of the formula $[(\text{W}_2\text{O}_9)]_n$. The Pr atoms have a coordination no. of 8 and 9. The structure is characterized by short W-Pr distances. D. B. Ocenaskova

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Soviet Inventions Illustrated, Section I Chemical, Derwent, ¹⁻⁷⁸

242779 WELD CRACKING TESTING involves remelting the weld by a method where on a square cross-section metal bar cuts are made on each of three edges to a different depth along the full length of the bar, the cuts are welded and then melted. An assessment by comparison establishes the cracking tendency.
17.6.67 as 165396/25-28. K.V.L. MACHINE CONSTRUCTION TECHNOLOGY RES. INST. (1.9.69.) Bul 14/18.4.69. .
Class 42k. Int.Cl.G 01n.

LD

AUTHORS: Lyubavskiy, K. V.; L'kova, Ye. P.; and Kleybanova, Zh. P.
Tsentral'nyy Nauchno - Issledovatel'skiy Institut
Tekhnologii Mashinostroyeniya

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UR 0482

K
Soviet Inventions Illustrated, Section I Chemical, Derwent,

3/70

237288 FERRITE FILMS for memory components are prepared by vapourising the ferrite at high temperature and under vacuum and depositing it on a monocrystalline plate of MgO. Both the ferrite and the plate are warmed up to 400°C by a direct electric heater. A high frequency induction heater takes the ferrite up to 1000°C at a pressure of 0.5 torr. It takes about 2 mins. to produce an approximately 50 μ thick element.
29.3.68. as 1228755/18-24. B.YE. KLEYMAN, Ya.M. BEKKER. (10.7.69.) Bul.8/12:2.69. Class 21g.
21a. Int.Cl. H03k.

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19741239

USSR

UDC: 523.035.338.336

KLEYMAN, Ye. B. and OYRINGEL', I. M.

"Radiation of Plasmons by an Atom in a Magnetically Active Plasma"

Moscow, Astronomicheskii Zhurnal, vol 50, No 4, 1973, pp 884-886

Abstract: The authors consider single-quantum transitions for an atom in a magnetically active plasma, with the transitions proceeding with the radiation of transverse and longitudinal plasmons. The gyrofrequency of the plasma electrons is assumed much smaller than the Langmuir frequency of the electrons. The analysis begins with an expression for the radiation probability per unit time for a transverse quantum of given frequency, wave vector, and polarization, in a specified solid angle. It is shown that under certain conditions, the longitudinal wave emissions predominate over the transverse radiation at frequencies close to the Langmuir value. The authors express their thanks to S. A. Kaplan for his participation in the discussions of the work.

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USSR

UDC: 539.142.3

BELOV, Yu. V., KLEYMAN, Yu. L., MORKOVIN, N. V., PAVLENKO, V. A., Special Design Office of Analytical Instrument Making, Academy of Sciences of the USSR

"A Nuclear Magnetic Resonance Spectrometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331302, Division G, filed 11 Jan 71, published 7 Mar 72, p 129

Translation: This Author's Certificate introduces a nuclear magnetic resonance spectrometer which contains an electromagnet, a system of external proton stabilization and a system of internal stabilization of resonance conditions, a transceiver with phase detector, a nuclear magnetic resonance signal indicator, a registration device, a voltage-to-frequency converter, a field modulator, a double resonance device and a nuclear magnetic resonance signal phase regulator. As a distinguishing feature of the patent, the universality of the instrument is extended and productivity is increased by adding a summing amplifier for controlling the voltage-to-frequency converter from the registration device and the nuclear magnetic resonance signal

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USSR

BELOV, Yu. V., USSR Author's Certificate No 331302

indicator, and by making the NMR signal phase regulator in the form of two mutually synchronized flip-flops with shaping devices. These flip-flops are connected to an inductive phase shifter and a compensation amplifier.

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USSR

UDC 547.241

K
TIMOFEYEVA, T. N., KLEYMAN, YU. L., and IONIN, B. I., Leningrad
Technological Institute imeni Leningrad, Ministry of
Higher and Secondary Specialized Education RSFSR

"Analysis of Signals of Ethyl Group in PMR Spectra of Ethanephosphonic
Acid Derivatives and Triethylphosphine Oxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1046-
1050

Abstract: The article uses the previously suggested method of
averaging of theoretical spectra for the case of an ethyl group
linked with magnetic nuclei with spin $1/2$. The PMR spectra of acid
dichlorides and difluorides, dimethyl ester and bisdimethylamide of
ethanephosphonic acid and triethylphosphine oxide are considered.
The spectra of such compounds belong to type A_3B_2X , and the sub-
spectra method suggested by P. T. NARASHIMHAN and M. T. ROGERS is
convenient for their analysis. A "Razdan-2" digital computer was
used to calculate line frequencies and intensities, employing a
specially compiled program " A_3B_2X With Averaging," which provides
 $1/2$

USSR

TIMOFEYEVA, T. N., et al, Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1046-1050

for the calculation of frequencies and intensities of two subspectra and their averaging. The results indicate that variations in the constants for H-P spin-spin coupling are subject to the same regularities as in the case of H-H spin-spin coupling.

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UDC 621.316.722.1(088.8)

USSR

SHIROCHENSKIY, A. YE., KLEYMENOV, V. S.

"Reference Voltage Source"

USSR Author's Certificate No 273303, Filed 6 Mar 69, Published 14 Sep 70 (from
RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A263P)

Translation: A reference voltage source is proposed. It contains a regulating semiconductor triode, a DC amplifier and a silicon stabilatron in the emitter network of the DC amplifier. It is distinguished by improved stability of reference voltage.

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1/3 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EFFECT OF TEMPERATURE AND PH OF THE MEDIUM ON THE CONCENTRATION OF
FREE RADICALS IN WOOD AND ON ITS BRIGHTNESS -U-
AUTHOR--(04)-BUKHTEYEV, B.M., KLEYMENOVA, T.A., IVANOV, M.A., SHCHERBAKOVA, -
L.D.
COUNTRY OF INFO--USSR
SOURCE--BOK. PROM. 1970, (4), 22-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PYROLYSIS, WOOD, CHAIN REACTION, EPR SPECTRUM, FREE RADICAL,
CHEMICAL REACTION TEMPERATURE, THERMAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1766 STEP NO--UR/0329/70/000/004/0022/0023
CIRC ACCESSION NO--AP0123564
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/3 017

CIRC ACCESSION NO--AP0123564

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXOTHERMIC DECOMPN. OF WOOD (DURING PYROLYSIS), WHICH CAN BE REGARDED AS A SERIES OF CHAIN REACTIONS INVOLVING FREE RADICALS, BEGINS AT 275DEGREES. THE PRESENCE OF FREE RADICALS IN WOOD AT LOWER TEMPS., SUCH AS USED IN KRAFT AND SODA PULPING, HAS BEEN REPORTED AND THERE IS REASON TO BELIEVE THAT WOOD DEGRADATION PROCESSES, PROBABLY INVOLVING FREE RADICALS, OCCUR AT THESE LOW TEMPS. EPR SPECTRA OF SPRUCE, BIRCH, AND ASPENWOOD FLOUR SAMPLES EXPOSED FOR 5-25 MIN TO TEMPS. OF 120, 140, AND 160DEGREES SHOWED THAT 5 MIN HEATING AT 120DEGREES RESULTS IN RECOMBINATION OF PART OF THE STABLE FREE RADICALS. FURTHER HEATING AT THIS TEMP. HAS NO EFFECT ON THE FREE RADICAL CONCN. THE CHANGES IN RADICAL CONCN. DURING HEATING AT 140 AND 160DEGREES DEPEND ON THE NATURE OF THE WOOD. IN SPRUCE AND BIRCHWOODS, RECOMBINATION OF RADICALS TAKES PLACE DURING THE 1ST FEW MIN; WHILE IN ASPENWOOD, THIS PROCESS IS NOT OBSERVED BECAUSE OF THE INTENSE FREE RADICAL INITIATION WHICH BEGINS DURING THE 1ST MIN OF HEATING. HEATING AT 140 AND 160DEGREES CAUSES DARKENING OF THE WOOD. THE EXPTS. WERE REPEATED WITH WOOD FLOUR SAMPLES TREATED FOR 45 MIN AT 120-180DEGREES WITH BUFFER SOLNS. AT PH'S 1.4-12.5. SIMULTANEOUSLY DETNS. WERE MADE OF THE BRIGHTNESS OF THE WOOD. IN WEAKLY ACIDIC AND NEUTRL MEDIA, THE FREE RADICAL CONCN. WAS THE LOWEST AND THE WOOD BRIGHTNESS WAS THE HIGHEST. THIS CONFIRMS THE LIMITED FORMATION OF CHROMOPHORE GROUPS IN LIGNIN IN RADICAL REACTIONS AT NEUTRAL AND WEAKLY ACIDIC PH (SUCH REACTIONS OCCUR MORE EASILY AT ALK. PH).

UNCLASSIFIED

3/3 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123564

ABSTRACT/EXTRACT--THE OVERALL CONCLUSION IS THAT THERMAL INITIATION OF
FREE RADICALS OCCURS AT RELATIVELY LOW TEMPS., BUT THE REACTIONS
INVOLVING FREE RADICALS ARE OF LOW INTENSITY AND DO NOT DEVELOP INTO
CHAIN REACTIONS.

FACILITY: VNIIB, LENINGRAD, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--REACTION OF 1,5-DIKETONES WITH HYDROGEN SULFIDE IN ACID MEDIA -U-
AUTHOR--(05)-KHARCHENKO, V.G., KUPCHANETS, N.M., KLEYMENOVA, V.I.,
RASSUDOVA, A.A., STANKEVICH, M.E.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1119-20 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--KETONE, HYDROGEN SULFIDE, BENZENE DERIVATIVE, THIOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1289 STEP NO--UR/0366/70/006/005/1119/1120
CIRC ACCESSION NO--AP0134953
UNCLASSIFIED

2/2 007
CIRC ACCESSION NO--AP0134963

UNCLASSIFIED

PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RCOCHR PRIME1 CHR PRIME2 CHA PRIME3 COR PRIME4 WITH H SUB2 S AND HBR, HI, OR P SUB2 O SUB5 IN INERT SOLVENTS GIVES 2,R,3,R PRIME1, 4,R PRIME2, 5,R PRIME3, 6,R PRIME4, PENTASUBSTITUTED THIOPYRANS, WHICH DISPROPORTIONATE IN ACID MEDIUM TO GIVE ONE MOL. OF THE CORRESPONDING TETRAHYDROTHIOPYRAN (I) AND 2 MOLS. OF THE CORRESPONDING THIOPYRYLIUM CHLORIDE. PROPERTIES OF THE FOLLOWING I ARE GIVEN (R, R PRIME1, R PRIME2, R PRIME3, AND R PRIME4 GIVEN): PH, H, H, H, PH; PH, H, PH, H, PH; PH, H, ME, H, PH; ALSO R EQUALS PH, R PRIME1 EQUALS H, R PRIME2 EQUALS P, MEOC SUB6 H SUB4, (R PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4; R EQUALS PH, R PRIME1 EQUALS H, R PRIME2 EQUALS C SUB6 H SUB3 (OME) SUB2 3,4, (R PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4; AND (R EQUALS R PRIME1 EQUALS) (CH SUB2) SUB4, (R PRIME3 R PRIME4 EQUALS) (CH SUB2) SUB4, R PRIME2 EQUALS H OR ME.
FACILITY: SARATOV. POLITEKH. INST., SARATOV, USSR.

UNCLASSIFIED

USSR

UDC: 537.312.62

BAYKOV, A. I., KLEYH, G. A., GORBACHEVA, L. S., ALIMOVA, R. N., MIKHAYLOV, S. M., LITVINOVA, I. I., BEREZIN, R. G.

"Investigation of Some Properties of the Ternary Alloy SS-2 in the Process of Deformation and Vacuum Annealing"

Moscow, Sverkhprovodyashchiye splavy i sovedin.--sbornik (Superconductive Alloys and Compounds--collection of works), "Nauka", 1972, pp 157-160 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D563 [résumé])

Translation: A series of experiments is done to determine the influence of intermediate annealing on the technological, mechanical, electrical and structural properties of wire made from SS-2 alloy, which is a member of the niobium-titanium-zirconium ternary system. The resultant data show that intermediate annealing embrittles SS-2 wire to a greater extent as the diameter of the wire decreases and the annealing temperature increases. X-ray structural analysis showed that there is no change in phase composition of the alloy under the given annealing conditions; all specimens have the structure of a β -solid solution with lattice parameter $a = 0.325$ nm. An examination of powder patterns obtained from annealed wire of all diam-

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USSR

BAYKOV, A. I. et al., Sverkhprovodyashchiye splavy i soyedin.--sbornik, "Nauka", 1972, pp 157-160

eters showed that the temperature for beginning of recrystallization of all diameters of wire is the same -- 700°C. Further annealing increases grain size, an especially intensive increase in grain size being observed at annealing temperatures of 1000 and 1100°C. One illustration, bibliography of six titles.

2/2

- 139 -

UDC 669-172:541.12.036

USSR

KLEYN, G. A., OSIPOVA, L. Kh., GRISHKOV, G. N., MIKHAYLOV, S. M., and
VOLKOV, O. V.

"Effect of Temperature on the Physical and Mechanical Properties of Oriented
Molybdenum Single Crystals"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory
and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 153-158

Translation: A study was made of the effect of temperature (1,000°C) on
the anisotropy of the physical and mechanical properties of molybdenum
single crystals grown in the [001], [110], [111], and [112] direc-
tions. 3 Tables; 3 Figures; 8 Bibliographic References.

1/1

UDC 669.172:541.12.036

USSR

KRAKHMALEV, V. A., and KLEYN, G. A.

"Influence of Low-Temperature Thermal Cycling on Changes in Dislocation Structure and Microhardness of Tungsten Single Crystals"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 125-129

Translation: The methods of dislocation etching, x-ray analysis, and microhardness are used to study the changes in crystalline structure of cylindrical tungsten single crystals occurring with low-temperature thermal cycling in the 288-673°K temperature interval.

It is demonstrated that nondiffusion processes of the dislocation type occur intensively, leading to local polygonization of the specimens at certain stages of fatigue. 3 Figures; 18 Bibliographic References.

1/1

- 54 -

UDC 669-172:539.2

USSR

KLEYN, G. A., MIKHAYLOV, S. M., KRAKHMALEV, V. A., and GRISHKOV, G. N.

"Substructure of Oriented Single Crystals of Molybdenum of Increased Size Produced by the Zone Growth Method"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 63-66

Translation: The substructure of monocrystalline bars of molybdenum 25 mm in diameter produced by the method of zone growth is studied. X-ray analysis using a narrow and broad beam is used to show that in the process of growth decrystallographic orientation of the single crystals is not changed. The substructure of these single crystals is homogeneous and in equilibrium, with the exception of the outer surface layers, in which the mosaic blocks are finer. Disorientation of the blocks of thick single crystals averages 10-40 min. The microhardness in the transverse cross section of the single crystals is constant in value and increases only slightly near the external surface of the single crystals. 4 Figures.

1/1

USSR

UDC 539.3.01

KLEYN, I. S.

"Convergence of the Method of Finite Elements for One Class of Problems in Nonlinear Elasticity Theory"

Tr. VNII vodosnabzh., kanaliz. gidrotekhn. sooruzh. i inzh. gidrogeol. (Works of the All-Union Scientific Research Institute of Water Systems, Channels, Hydraulic Engineering Equipment, and Engineering Hydrogeology), 1972, No. 38, pp 70-75 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V17)

Translation: The method of finite elements is treated as a projection-difference method (Bubnova-Galerkina) for the first boundary value statistical problem of nonlinear elasticity theory. The convergence of this method is proved under the assumption of strong monotonicity of the nonlinear operators. 11 ref. N. D. Veksler.

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THE FORMATION OF DOSE FIELDS ON PROTON BEAM OF ITEP ACCELERATOR -U-
AUTHOR--(05)-BLOKHIN, S.I., GOLDIN, L.L., KLEYNBOK, YA.L., LOMANOV, M.F.,
ONOSOVSKIY, K.K.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 5, PP 64-68
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL APPARATUS, PROTON ACCELERATOR, RADIATION
DOSAGE/(U)ITEP ACCELERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAHE--1997/1958

STEP NO--UR/0241/70/015/005/0064/0068

CIRC ACCESSION NO--AP0120601

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120601

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DISCUSSES THE
TECHNIQUE OF FORMATION OF DOSE FIELDS OF WIDE PROTON BEAMS ALONG THE
AXIS OF THE BEAM AND IN TRANSVERSE DIRECTION, AS WELL AS THE
CONSTRUCTIVE FEATURES SPECIFIC FOR THE EQUIPMENT USED FOR THESE
PURPOSES. DOSE FIELDS FORMED ON A MIDEICO BIOLOGICAL PROTON BEAM OF
ITEP ACCELERATOR. FACILITY: INSTITUT EKSPERIMENTAL'NOY I
TEORETICHESKOY FIZIKI AN SSSR.

UNCLASSIFIED

Acc. Nr:

AP0052077- KLEYNER

Ref. Code: UR0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 2, pp 101-104

STATE OF THE DIGESTIVE ORGANS IN WORKERS OF THE PHENOPLAST
AND AMINOPLAST PRESSPOWDER PRODUCTION

A. I. Kleyner, L. P. Rutshteyn, M. B. Poretskaya, S. S. Kangelari

Results indicate that persons working in the production of phenoplast and amino-
plast presspowders and articles made of them show a more frequent incidence of chronic
gastritis with preserved secretion, mainly functional disorders of external secretion of the
pancreas and liver.

Hygienic measures are suggested.

REEL/FAME

19820615

USSR

UDC 621.382.2

KLEYNER, E. A. Engineer, MALITSKIY, G. A., Engineer, and MAL'TSEV, Yu. S.,
Engineer

"Use of an Integrated Operational Amplifier in the Elements of Digital
Devices"

Moscow, Pribery i Sistemy Upravleniya, No 6, Jun 71, pp 30-32

Abstract: Soviet integrated DC amplifiers are experimentally studied and practical circuits are considered for the elements of digital measuring instruments which operate on the basis of linear monolithic integrated circuits. The LUT401 is a three-stage solid-state DC amplifier with differential input made by planar-epitaxial techniques on a single semiconductor crystal. The unit is designed for use as an operational amplifier. This integrated circuit contains nine NPN transistors and 12 resistive elements. The unit amplifies the difference between signals applied to the input, one signal being inverted, while the other is not inverted. Two modifications are available: the LUT401A with power supply of ± 6.3 V and voltage gain of 700-1800, and the LUT401B with power supply of ± 12.6 V and voltage gain of 1800-4500. The device can perform the operations of addition, subtraction, inversion, integration, differentiation and scaling, and can also convert,
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USSR

KLEYNER, E. A., et al., Priory i Sistemy Upravleniya, No 6, Jun 71, pp 30-32

compare, generate, stabilize and detect linear and nonlinear signals. In addition, the 1UT401 can be used as a resonance, shaper or video amplifier over a broad frequency range. Because of the low input impedance of the device (tens of kilohms), an emitter follower is connected to the input. This follower is based on the 1KT011 integrated interrupter. Practical null-indicator and integrator circuits are presented. The integrator circuit can also be used as a sawtooth voltage generator for timing a digital measuring instrument for pulse-time conversion. The characteristics of the null-detector and integrator are given.

2/2

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1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF THE METHOD OF HARDENING ON THE RUPTURE RESISTANCE OF
STEEL IN THE PRESENCE OF A SURFACE STRESS RAISER -U-
AUTHOR-(04)-BERESNEV, G.A., KLEYNER, L.M., SARRAK, V.I., ENTIN, R.I.
COUNTRY OF INFO--USSR
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 427-428
DATE PUBLISHED----FEB70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--STRESS CONCENTRATION, ALLOY STEEL, RUPTURE STRENGTH, AGE
HARDENING, DISPERSION HARDENING, BRITTLE FRACTURE, TENSILE STRENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0346 STEP NO--UR/0126/70/029/002/0427/0428
CIRC ACCESSION NO--AP0129578
UNCLASSIFIED

2/2 038

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129578

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE METHOD OF HARDENING ON THE RUPTURE RESISTANCE OF A NUMBER OF HIGH STRENGTH ALLOY STEELS IN THE PRESENCE OF A SURFACE CRACK (STRESS RAISER) WAS STUDIED. HARDENING METHODS EMPLOYED INCLUDED: INCREASING THE C CONTENT, STRAIN AGEING, AND DISPERSION HARDENING. THE RESULTS CONFIRMED THAT THERE WAS NO UNAMBIGUOUS RELATIONSHIPS BETWEEN THE NOMINAL UTS AND THE RESISTANCE TO BRITTLE FRACTURE (IN THE SENSE OF SENSITIVITY TO A SURFACE CRACK); THE RESISTANCE TO BRITTLE FRACTURE DEPENDED ESSENTIALLY ON THE METHOD EMPLOYED TO INCREASE THE STRENGTH AND HARDNESS OF THE MATERIAL.

UNCLASSIFIED

USSR

UDC: 621.396.946:621.391

KALABEKOV, B. A., KLEYNERMAN, R. I.

"On the Problem of Selecting the Optimum Length of a Regeneration Segment"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of the Moscow Electrical Engineering Institute of Communications), 1970, vyp., pp 42-46 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A194)

Translation: The authors determine the optimum length of the segment for signal regeneration in an optical system with IR modulation which ensures minimum variance of the error in determining the time position of a pulse. Methods of signal analysis at regeneration points are discussed. The probability of disruption of the operation of the system due to inaccuracy in synchronizing the pedestal frequency is determined. V. Sh.

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- 22 -

USSR

UDC 518:512.39

KLEYZA, V. V.

"Evaluating the Error in the Monte Carlo Method for Solving Systems of Nonlinear Equations"

Vil'nyus, Litovskiy Matematicheskiy Sbornik, vol 13, No 1, 1973, pp 79-86

Abstract: This article is the follow-up of an earlier paper by the author named above in the same journal (O dostatochnykh usloviyakh primenimosti metoda Monte-Karlo dlya resheniya sistem nelineynykh uravneniy -- Sufficient Conditions of the Applicability of the Monte Carlo Method to the Solution of Nonlinear Equation Systems -- vol 12, 2(1971)) in which the nonlinear systems were of the type $F_k(\bar{x}) = 0$, $k \in S = \{1, 2, \dots, n\}$, where $\bar{x} = (x_1, x_2, \dots, x_n)$. These systems are compatible and have the unique solution of $x^0 = (x_1^0, x_2^0, \dots, x_n^0)$. The function of the present article is to evaluate the error arising in the use of the Monte Carlo method for handling such equations and to obtain an expression for the convergence rate. The author begins his analysis by considering the uniform case $F(x) = 0$ under the assumption that it has a single root $x^0 = 0$.

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KLEYZA, V. Yu.

L155R. min of Health

PUBLIC HEALTH ACHIEVEMENTS IN SOVIET LITHUANIA

UDC: 614.2(474.5)

[Article by V. Yu. KLEYZA, Lithuanian Minister of Health, Moscow, *Sovetskoye Zdravookhraneniye*, Russian, No 11, 1972, submitted 17 July 1972, pp 3-9]

Public health workers, like the entire Soviet nation, are preparing for a solemn celebration of the 50th anniversary of the USSR. The preparations for this noteworthy occasion constitute, so to speak, a review of all the work done by the health care service in the years of Soviet power.

Man's vital activities involve constant interaction between biological and social factors. It is only if economic, social, and hygienic conditions are good enough that man's physical and mental development can be improved. Such conditions did not and could not exist in tsarist Russia. The situation was difficult for the working people in different national districts of the Russian empire, one of which was almost all of Lithuania.

It is only with the victory of the proletarian revolution and installation of Soviet power in Lithuania that the temporary revolutionary workers' and peasants' Government initiated, along with other immediate measures, some vigorous steps to create the necessary conditions for a normal life for the working people. On 13 March 1919, Vil'nyus University was reopened, and a medical faculty was created. Medical issues acquired national significance. However, the Lithuanian bourgeoisie, supported by imperialistic circles of the USA, England, and Germany, succeeded in crowning Soviet power in blood. Again, development of socialist public health ceased in Lithuania for long years.

Only in 1940, after restoration of Soviet power in Lithuania, did the socialist public health care system begin to develop again. This constituted very sphere of measures pertaining to health care became much broader, dealing with labor safety and construction of new housing, and mass scale development of physical culture, as well as rational rest and resort therapy.

The Hitlerite occupation resulted in devastation of the material base of public health in Lithuania; acute intestinal infections, typhus,

SRK5 57875
2 June 73

USSR

UDC 523.164

YEFANOV, V. A., KEYS, Ye. M., KLICH, S. M., MOISEYEV, I. G.,
CHESNOKOV, A. A. (Deceased), and ESMAN, A. P.

"Radiometer in the 8-mm Range With a Parametric Amplifier"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 3, 1970,
pp 627-629

Abstract: Although parametric amplifiers have been successfully used in centimeter-wave radiometric receivers, no information has hitherto appeared in the literature concerning similar use of these amplifiers in the millimeter range. This brief communication gives the characteristics and some of the results of a radiometer used in the 8-mm wavelength range with a semiconductor parametric amplifier at its input. The observations were made with the radiotelescope RT-22 in the Crimean Astrophysical Observatory. The amplifier in question is a single-tuned-circuit type with a circulator and ferrite valve at the input for additional decoupling, connected to the modulation radiometer with no change in the latter. Observations using

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USSR

YEFANOV, V. A., et al, Radiotekhnika i Elektronika, Vol 15,
No 3, 1970, pp 627-629

Abstract: this device were made of the planets Jupiter and Venus, and of discrete sources such as 3C273, 3C279, etc. The use of this amplifier improved the sensitivity of the radio-meter and the reliability of the operations.

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1/3 022 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--8-MM BAND RADIOMETER WITH PARAMETRIC AMPLIFIER -U-

AUTHOR--YEFANOV, V.A., KEYS, YE.M., KLICH, S.M., MOISEYEV, I.G.,
CHESNOKOV, A.A.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO 3, MAR 70, PP 627-629

DATE PUBLISHED----MAR70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--RADIOMETER, PARAMETRIC AMPLIFIER, RADIO TELESCOPE, RADIO
ASTRONOMY/(U)RT22 RADIOTELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1673

STEP NO--UR/0109/70/000/003/0627/0629

CIRC ACCESSION NO--AP0104895

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104895

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE CHARACTERISTICS AND SOME RESULTS OF THE USE FOR RADIOASTRONOMICAL OBSERVATIONS OF A 8-MM BAND RADIOMETER WITH A SEMICONDUCTOR PARAMETRIC AMPLIFIER AT THE INPUT. THE OBSERVATIONS WERE MADE ON THE RT-22 RADIO TELESCOPE OF THE CRIMEAN ASTROPHYSICAL OBSERVATOR OF THE ACADEMY OF SCIENCES, USSR. THE MEASURED CHARACTERISTICS OF THE RADIOMETER WITH THE SEMICONDUCTOR PARAMETRIC AMPLIFIER (PA) ARE: 1) NOISE TEMPERATURE OF THE PA, INCLUDING LOSSES OF THE CIRCULATOR, SIMILAR TO 540DEGREES K; 2) SINGLE CHANNEL AMPLIFICATION FACTOR OF THE PA, INCLUDING LOSSES OF THE CIRCULATOR, SIMILAR TO 16 DB; 3) TRANSMISSION BAND OF PA AT THE 3 DB LEVEL, 150-190 MHZ; 4) NOISE TEMPERATURE OF THE MIXER, INCLUDING THE NOISE OF THE I F AMPLIFIER, 4400DEGREES K; 5) TRANSMISSION BAND OF THE I F AMPLIFIER, CONGRUENT TO 20 MHZ; 6) LOSSES OF THE WAVEGUIDE CHANNEL UP TO THE PA, INCLUDING FERRITE MODULATOR AND RECTIFIER, 2 DB; 7) LOSSES OF THE WAVEGUIDE CHANNEL BETWEEN THE PA AND THE MIXER, INCLUDING THE FERRITE RECTIFIER AT THE OUTPUT OF THE PA, 3 DB; 8) OVER ALL NOISE TEMPERATURE OF THE RADIOMETER (INCLUDING THE NOISE OF THE RADIOTELESCOPE ANTENNA), MEASURED AT DIFFERENT TIMES, TAU SUBOVERALL EQUALS 1300-1700DEGREES K; AND 9) FLUCTUATION SENSITIVITY OF RADIOMETER MEASURED UNDER THE SAME CONDITIONS AS TAU SUBOVERALL (WITH A TIME CONSTANT OF THE LOW FREQUENCY CIRCUIT TAU EQUALS 1 SEC), DELTATAU EQUALS 0.5 - 0.7DEGREES K.

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3/3 022

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PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104895

ABSTRACT/EXTRACT--THE RADIOMETER DESCRIBED, BUT WITHOUT THE PA HAD, ACCORDING TO CERTIFIED DATA, τ SUBOVERALL EQUALS 7500-9000 DEGREES K, $\Delta\tau$ CONGRUENT TO 3 DEGREES K WITH τ EQUALS 1 SEC, AND WITH THE BEST ADJUSTMENT OF THE ELEMENTS OF THE RECEIVING CHANNEL IT WAS POSSIBLE TO ATTAIN τ SUBOVERALL EQUALS 5000 DEGREES K AND $\Delta\tau$ EQUALS 2 DEGREES K. A COMPARISON OF THESE DATA WITH THOSE PRESENTED ABOVE SHOWS THAT USE OF THE PA EVEN WITH ITS NONOPTIMUM USE, AS OCCURED IN THE WORK, LEAD TO AN INCREASE OF THE RADIOMETER'S SENSITIVITY BY FOUR TIMES. 2 - FIGS. 8 REF. RECEIVED BY EDITOR: 22 JAN 69.

UNCLASSIFIED

USSR

K UDC: 621.396.96:621.396.62

KLICH, S. M.

"On Selecting the Operating Conditions of an AFC Semiconductor Mixer in a Radar Receiver"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices and Their Application--collection of works), Vyp. 23, Moscow, "Sov. radio", 1970, pp 261-275 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10G32)

Translation: The author presents the experimental amplitude characteristics of a semiconductor mixer for the 8 mm band in the case of a strong signal, and compares these characteristics with theory. On this basis, a simple method is proposed for engineering computation of the input-output characteristic of a mixer in the case of a strong signal, and families of generalized amplitude characteristics are plotted which give a visual representation of the output voltage of the difference frequency as a function of the change in powers of the signal and the heterodyne. Some recommendations are given on selecting the operating conditions of an AFC mixer. Six illustrations, bibliography of seven titles. Resumé.

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KLIGE, R.K.

Hydrology

Hydrology
Source: 5 PRS #56715
8 Aug 72

Hydrology
Source: 5 PRS #56715
8 Aug 72

MOISTURE CIRCULATION IN NATURE
(Conference in Moscow)

Article by Candidate of Geographic Sciences R. K. Klige, Moscow, Vostochnaia Akademiya Nauk SSSR, Russian, Vol. 42, No. 6, June 1972, pp. 118-119

Natural water exchange is the main mechanism forming fresh water resources and simultaneously a very important factor in the circulation of mineral and organic matter. Therefore investigations connected with question of natural water exchange are becoming more and more urgent at the present time.

The Institute of Water Problems of the AS USSR conducted in Moscow on 10-13 January an All-Union Conference on the problem of "Moisture Circulation in Nature and its role in the problem of Fresh Water Resources." Participating in it were over 170 specialists from 40 organizations of various cities of the Soviet Union and also representatives of the socialist countries. At the conference there was an exchange of information which permitted determining the main directions of investigation which were conducted in that area by scientific institutions and VUZ.

As was pointed out in the report of A. N. Voronovskiy, one of the important problems facing our country is supplying the population and the national economy with pure fresh water, which is connected with irregularity in the distribution of water resources on the territory of the USSR and in time with the growth of the population, especially in the large industrial centers, with increase of industrial production, which increases the contamination of rivers and reservoirs by waste waters, disturbance of the conditions of inland seas, etc. All these circumstances require a qualitative and quantitative evaluation of the change of the water resources of the country in the long term and the development of a complex of measures for their regulation and preservation.

USSR

UDC 621.372.833

KLIGER, G.A., KOMISSAROV, V.I., KUZNETSOV, V.D.

"Wide-Band Balancing Transformer (Short Report)"

Elektrosvyaz', No 9, Sept 1972, pp 17-19

Abstract: Previous works with V.D. Kuznetsov as a coauthor described a number of schemes for wide-band balancing adapters with transformation, which are used for accordant connections of symmetrical and nonsymmetrical lines with various wave impedances. Because it is difficult to make a symmetrical line with the low wave impedance required, particularly in the short wave range, the present paper presents a method for simplifying the design of such a balancing adapter and decreasing its length by half. The method is based on a scheme previously proposed by the authors (Author's Certificate No 343327, "Byulleten' izobreteniy," No 20, 1972). An analysis is made of the adapter in order to determine the optimum magnitudes of the wave impedances W_T and W_S . 7 fig. 4 ref. Received by editors, 6 Sept 1971.

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USSR

UDC: 621.396.677.085.414

KLIGER, G. A., SMILOVENKO, L. I., and SORINA, E. I.

"Investigating the Possibility of Shortening the Horizontal Elements of a Vertical Zigzag Log-Periodic Antenna"

Tr. NII radio (Transactions of the Scientific Research Institute of Radio) No. 2, 1970, pp 96-102 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B34)

Translation: Several methods are considered for reducing the length of horizontal phasing elements of a vertical zigzag log-periodic antenna. Results are given of computations and experimental investigations. Resume

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USSR

UDC: 621.396.677(088.8)

AYZENBERG, G. Z., ZHURBENKO, E. M., KLIGER, G. A., LYALIKOV, V. V.

"A Long-Wave Impedance Antenna"

USSR Author's Certificate No 247362, filed 20 May 68, published 11 May 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B61 P)

Translation: The proposed antenna system consists of an antenna tower, and log-periodic zig-zag arrays hung on rails which are fastened to the antenna tower. A switch is used to connect the transmitter either to the antenna tower or to one of the zig-zag elements. When the transmitter is connected to the antenna tower, the antenna system is an impedance antenna with un-directed radiation pattern in the horizontal plane; in this case, the zig-zag log-periodic arrays are passive elements which act as guides. In the case where one of the log-periodic arrays is fed, the antenna system is a directional frequency-independent average-wave antenna. The direction of maximum radiation depends on which log-periodic array the transmitter is connected to. In case it is necessary to serve several sectors with maximum radiation in the direction of the vertex of the log-periodic structures, a transmitter is connected to each of them. One illustration. A. K.

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USSR

UDC: 621.396.677.75

AYZENBERG, G. Z., ZHURBENKO, E. M., KLIGER, G. A., and LYALIKOV, V. V.

"Impedance Antenna With Delay Structure Consisting of Zigzag Wire Lines"

Moscow, Radiotekhnika, Vol. 25, No. 11, 1970, pp 39-48

Abstract: Impedance antennas contain two elements, exciters and directors, the latter being an impedance surface which is usually a ribbed metallic surface. The purpose of this article is to analyze antennas of this type and to show how their present form, which is complex and difficult to produce especially at increased wavelengths, can be imitated by replacing the solid metal surface with ribbons or wires bent in rectangle-toothed fashion. In their analysis, the authors limit themselves to considering an asymmetrical vibrator and impedance structure in the form of a grating of radial zigzag lines with vertical and horizontal elements of varying length. They conclude by asserting that such antennas are promising for medium and high-frequency use, and recommend that further investigations into film and wire impedance structures be made. Theoretically and experimentally determined directional diagrams in the vertical and horizontal planes are shown.

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USSR

UDC: 621.396.677.3

AYZENBERG, G. Z., ZHURBENKO, E. M., KLIGER, G. A., LYALIKOV, V. V.

"A Long-Wave Impedance Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, 1970, p 193, patent No 247362, filed 20 May 68

Abstract: This Author's Certificate introduces: 1. A long-wave impedance antenna which consists of a driver (made in the form of a mast) and director elements. As a distinguishing feature of the patent, the antenna is designed for use in the middle wavelength range as a frequency-independent unit with controllable radiation pattern. The director elements are made in the form of log-periodic zigzag structures suspended on rails. 2. A modification of this antenna whose distinguishing feature is that several attended sectors are provided with maximum emission in the direction of the vertex of the log-periodic zigzag structures by connecting a transmitter to each of these structures.

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USSR

UDC 531.77

KLIGER, L. I.

"Inertial Navigation Systems With a Rapidly Rotating Platform"

Moscow, Vestnik Moskovskogo Universiteta, No 4, 1970, pp 95-99

Abstract: The article deals with a method of reducing the errors of an inertial navigation system by making the gyroplatform rotate according to a preassigned law. The method is based on the use of a rapidly rotating platform connected to newtonometers. The kinematic equations are used here in the form given by Ye. A. Devyanin (Izv AN SSSR, MFT, No 2, 1968). All systems of coordinates are orthogonal Pluecker coordinates. Because of sheer bulk, certain equations are not solved here. The problems of technical realization are also not considered, since they require special analysis applicable to a concrete scheme.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--RELATION BETWEEN THE PHASE DIAGRAM AND COMPOSITION PROPERTY DIAGRAM
OF THE INDIUM TIN SYSTEM -U-

AUTHOR--(03)-DUTCHAK, YA.I., KORSUNSKIY, A.M., KLIM, M.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(5), 36-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PHASE DIAGRAM, INDIUM, TIN, CRYSTAL LATTICE STRUCTURE,
ELECTRIC CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3008/0634

STEP NO--UR/0139/70/013/005/0036/0041

CIRC ACCESSION NO--AT0137719

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--ATO137719

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VISCOSITY COEFF. (η) AND THE ELEC. COND. (κ) WERE MEASURED IN THE SYSTEM IN-SN IN THE WHOLE CONCN. RANGE BY THE ROTATION VIBRATIONAL METHOD AT M.P. TO 700DEGREES OR BY THE ROTATING MAGNETIC FIELD METHOD AT 20-700DEGREES, RESP. A SUDDEN CHANGE IN BOTH η AND κ WAS OBSD. AT X EQUALS 40-55 AT.PERCENT SN. ON PLOTS η VS. X AND κ VS. X CONSTRUCTED AT EQUAL TEMP. DIFFERENCES ABOVE THE LIQUIDUS LINE, AN ANOMALOUS INCREASE IN BOTH η AND κ WAS OBSD. AT X EQUALS 20-48 CORRESPONDING TO THE SUPPOSED EXISTENCE OF THE BETA PHASE. THE GIBBS FREE ENERGY OF THE VISCOUS FLOW INCREASES LINEARLY WITH TEMP. AND THE CURVES $\ln \eta$ VS. $1/T$ ARE STRAIGHT LINES FOR ALL SAMPLES EXCEPT FOR THOSE WITH X EQUALS 20-40 ABOVE 500DEGREES. THESE DEVIATIONS FROM LINEARITY ARE DUE TO CHANGES IN THE NEAREST NEIGHBOR STRUCTURE IN THE LATTICE. FACILITY: L'VOV. GOSUNIV. IM. FRANKO, LVOV, USSR.

UNCLASSIFIED

Microbiology

USSR

UDC 615.372:576.851.555].015.45+576.851.555.097.29

ANOSOV, I. Ya., and KLIMACHEVA, L. V., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Morphological and Some Histochemical Changes in Guinea Pigs Produced by *Cl. perfringens* type A Hyaluronidase"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 133-136

Abstract: In vitro experiments showed that hyaluronidase isolated from *Cl. perfringens* type A toxin depolymerized hyaluronic acid of the ground substance of connective tissue (Wharton's jelly) from human umbilical cord. In guinea pig Achilles tendon, it caused the dense collagen bundles to separate into collagen fibers without undergoing necrosis. Intramuscular injection of guinea pigs with the enzyme caused a serous-exudative inflammation accompanied by edema, impairment of vascular permeability (intermuscular and endoneural diapedeses), slight alteration of muscular tissue, and disappearance of acid mucopolysaccharides from the dense connective tissue, endomysium, perimysium, and muscular walls of the blood vessels.

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Microbiology

USSR

UDC 576.851.555.098.31.078.2

ISPOLATOVSKAYA, M. V., KLIMACHEVA, L. V., TOKINOVA, T. H., and LARINA, I. A.,
Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical
Sciences USSR, Moscow

"Immunochemical Study of Enzymes of the *Cl. perfringens* Toxic Complex"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71,
pp 89-93

Abstract: A study was made of toxins formed by *Cl. perfringens* upon cultivation on a meat-pancreas medium. Lecithinase, collagenase, hyaluronidase, and neuraminidase were isolated and purified by previously described methods. The first three enzymes were converted by the action of CH_2O into compounds devoid of enzyme activity. Neuraminidase was not inactivated by CH_2O ; the *Cl. perfringens* toxoid retained neuraminidase activity. The enzymes and inactivated compounds had antigenic properties and induced formation of antibodies upon immunization of mice and rabbits. All enzymes reacted with immune serum *Cl. perfringens* toxin and also with immune serum to the respective inactivated enzyme. The antibodies to collagenase and hyaluronidase were highly specific; they did not protect mice against a *Cl. perfringens* culture or the toxin, but only inhibited collagenase or hyaluronidase activity. The toxins and toxoids

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USSR

ISPOLATOVSKAYA, M. V., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 89-93

were stable to the denaturing effect of urea and ethylene chlorohydrin, while collagenase, hyaluronidase, and collagenase were denatured by them. The stability of *Cl. perfringens* toxin to the action of the denaturing agents was due to the fact that the lethal factor, lecithinase, was resistant to their action. Lecithinase and its nontoxic derivative, inactivated lecithinase, passed at the same rate through Sephadex G-75 and formed precipitation lines in agar with the respective antisera. This indicated that formation of the toxoid is not associated with polymerization of the protein molecules of lecithinase. A study of the lecithinase of *Cl. perfringens* showed that it is a zinc-containing enzyme. By reacting the lecithinase with cysteine, Zn could be removed from it and the enzyme inactivated in this manner. Stable inactivated lecithinase was obtained upon removal of Zn, which had toxoid properties.

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USSR

UDC 576.851.555.098.31:577.154.365

KLIMACHEVA, L. V., and ISPOLATOVSKAYA, M. V., Laboratory of the Biochemistry of Metabolism of Pathogenic Microorganisms, Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Isolation and Some Properties of Hyaluronidase From *Clostridium perfringens*."

Moscow, Voprosy Meditsinskoy Khimi, Vol 16, No 4, Jul/Aug 70, pp 381-386

Abstract: Hyaluronidase preparations from *Clostridium perfringens* were purified 6,000 times by fractionation with ammonium sulfate and ethanol and by chromatography on the DEAE-Sefadex A-50. The preparations were free of lecithinase and collagenase activity and, on serological analysis and electrophoresis on starch-gel by the Smithies method produced two fractions. Since hyaluronidase is inhibited by the action of p-chloromercuric benzoate and moniodoacetate, it can be assumed that it is a thiol enzyme. It is susceptible to denaturation by urea and ethylenechlorohydrin. The inactivation of hyaluronidase changes in its antigenic activity, as determined by precipitation with immune serum. It is resistant to the action of metal-binding compounds (EDTA, o-phenanthroline, and cysteine), and is thus not a metalloenzyme. The inactivation of hyaluronidase and the detoxification of *Cl. perfringens* coincide. The ultraviolet spectra of hyaluronidase and its atoxic derivative differ only slightly.

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Acc. Nr.

AA0108178

Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code

UR 0482

135535k Powder wire for surfacing. Vernik, V. S.; Ruleva, A. F.; Kliman, T. G.; Razikov, M. I.; Korolev, N. V.; Kulishenko, B. A. U.S.S.R. 261,147 (Cl. B 23A), 06 Jan 1970, Appl. 14 Aug 1968; From *Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki* 1970, 47 (4), 146-7. Powder wire for surfacing consisted of a steel casing and a powd. core contg.: graphite 0.24-2.6, ferromanganese 22.5-7, Fe powder 1.9-5.2, W 14-16%, and a steel strip the remainder. MSCL

REEL/FRAME

19891844

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF SOME BIOLOGICALLY ACTIVE AGENTS ON THE INDEX OF
INDIVIDUAL RADIOSENSITIVITY -U-
AUTHOR--(03)-BREKHMEN, I.I., KLIMASHEVSKAYA, A.V.; GONENKO, V.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 153 K
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RADIATION SENSITIVITY, OXYGEN METABOLISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0466 STEP NO--UR/0205/70/010/001/0153/0153
CIRC ACCESSION NO--AP0121140
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121140

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF BIOL. ACTIVE AGENTS ON THE "INDEX OF INDIVIDUAL RADIOSENSITIVITY" (IIR) WAS STUDIED BY DETG. THE RATIO OF THE O REQUIREMENT AT ROOM TEMP. (20DEGREES) TO 0DEGREES. UNDER THE INFLUENCE OF BIOL. ACTIVE AGENTS, IIR INCREASED OR DECREASED, DEPENDING ON THE STARTING LEVELS. WITH OPTIMAL DOSES OF THE BIOL. ACTIVE AGENTS, CHARACTERIZED BY RADIORESISTANCE, THE O REQUIREMENT INCREASED AFTER CHILLING, INCREASING THE IIR. AN INCREASE OF IIR CHARACTERIZED THE ABILITY TO INCREASE THE NONSPECIFIC ORGANISM RESISTANCE. THE IIR VALUE CAN BE USED AS AN INDICATOR IN THE PRELIMINARY SELECTION OF THE BIOL. ACTIVE AGENT, BY INCREASING THE NONSPECIFIC RESISTANCE, INCLUDING RESISTANCE AGAINST RADIOACTIVITY. FACILITY: INST. BIOL. AKTIV. VESHCHISTV, VLADIVOSTOK, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--CORRELATION BETWEEN THE ANTIGENIC PROPERTIES AND THE SENSITIVITY OF
ENTEROPATHOGENIC E. COLI TO BACTERIOPHAGES AND COLICINES -U-
AUTHOR--(03)--BORISOV, L.B., LENTS, E.K., KLIMASHEVSKAYA, V.F. K

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGI I IMMUNOBIOLOGII, 1970, NR 3,

PP 71-76

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESCHERICHIA COLI, BACTERIOPHAGE, AGGLUTINATION, ANTIGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1461

STEP NO--UR/0016/70/000/003/0071/0076

CIRC ACCESSION NO--AP0109521

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 015

CIRC ACCESSION NO--AP0109521

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS PRESENT EXPERIMENTAL DATA INDICATING THAT BACTERIOPHAGE RESISTANT SUBCULTURES ISOLATED FROM BACTERIOPHAGE SENSITIVE E. COLI 026:B6 STRAINS FAILED TO AGGLUTINATE WITH SPECIFIC OB SERA AND POSSESSED A WIDER SPECTRUM OF SENSITIVITY TO VARIOUS TYPES OF COLICINES THAN BACTERIOPHAGE SENSITIVE AND AGGLUTINABLE FORMS OF THE SAME BACTERIA. THE MAJORITY OF BACTERIOPHAGE RESISTANT SUBCULTURES ISOLATED FROM BACTERIOPHAGE SENSITIVE E. COLI 0111:B4 STRAINS FAILED TO CHANGE THEIR OB ANTIGENS, BUT BECAME RESISTANT TO MANY TYPES OF COLICINES, TO WHICH BACTERIOPHAGE SENSITIVE CULTURES WERE SENSITIVE. IN THE AUTHORS' OPINION THE SAME OR CLOSELY CONNECTED RECEPTORS REALIZE THE BACTERIOPHAGE RECEPTOR AND ANTIGENIC FUNCTION IN E. COLI 026:B6 CULTURES. OB ANTIGENS AND RECEPTORS TO COLICINES IN THESE BACTERIA ARE MORE DIFFERENTIATED THAN IN E. COLI 0111:B4. BACTERIOPHAGE RECEPTOR AND ANTIGENIC FUNCTION IN THE LATTER BACTERIA ARE SEPARATED, AND POSSIBLY, THEIR RECEPTOR APPARATUS TO BACTERIOPHAGE AND COLICINES IS LESS DIFFERENTIATED. COLICINOGENIC PROPERTIES OF THE CULTURES UNDER STUDY WERE INDEPENDENT OF THEIR SENSITIVITY TO BACTERIOPHAGES AND OF OB ANTIGENS.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ROLE OF ROOTS IN DETERMINING DIFFERENT TOLERANCES OF GENETICALLY
RELATED PLANT FORMS TOWARDS ALUMINUM IONS -U-
AUTHOR--KLIMASHEVSKIY, E.L.

COUNTRY OF INFO--USSR

SOURCE--AGROCHIMICA 1970, 14(2-3), 232-41

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--WHEAT, LEGUME CROP, GENOTYPE, PLANT PHYSIOLOGY, ALUMINUM
COMPOUND, TOXICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1113

STEP NO--11/0000/70/014/02-/0232/0241

CIRC ACCESSION NO--AP0138130

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138130

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYSIOL. DIFFERENCES OF THE ROOTS OF GENETICALLY RELATED FORMS OF SPRING WHEAT AND PEAS WERE STUDIED IN CONNECTION WITH THEIR UNEQUAL REACTION TO THE INCREASED QUANTITY OF AL PRIME3 POSITIVE IN THE NUTRIENT SOLN. THESE DIFFERENCES WERE VERY STRIKING. HEREDITARILY CONDITIONED PROPERTIES OF GENOTYPES WERE MANIFESTED NOT SO MUCH IN THE DIFFERENT CHARACTER OF THEIR PHYSIOL. PROCESSES AS IN THE DEGREE OF THEIR UNEQUAL REACTIONS TO THE TOXIC DOSES OF AL PRIME3 POSITIVE. COGNITION OF THE ADAPTATION MECHANISM OF THE PLANTS BELONGING TO THE SAME SYSTEMATIC GROUP UNDER THE HARMFUL EFFECTS OF AL PRIME3 POSITIVE WILL PROVE TO BE VERY HELPFUL IN CULTIVATING NEW AGRICULTURAL VARIETIES. FACILITY: SIB. INST. PHYSIOL. BIOCHEM. PLANTS, IRKUTSK, USSR.

UNCLASSIFIED

USSR

UDC 546.8'261

KLIMASHIN, G. M., AVGUSTINIK, A. I., and SMIRNOV, G. V.

"The Carbonitride and Oxycarbide Phases of Titanium and Zirconium"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 8,
No 5, 1972, pp 843-845

Abstract: Titanium and zirconium oxycarbides and carbonitrides are synthesized in a vacuum of 10^{-3} - 10^{-5} mm Hg at 2020-2300° K over a broad concentration interval. The preparates synthesized are studied metallographically, chemically, and by x-ray methods. The areas of existence of single-phase solid solutions are established. It is concluded that the areas of existence of the oxycarbide and carbonitride phases decrease in the sequence from titanium to hafnium.

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USSR

UDC 541.123+546.831'261:541.12.03

AVGUSTINIK, A. I., KLIMASHIN, G. M., GOLIKOVA, O. A. and SMIRNOV, G. V.,
Leningrad Technological Institute imeni Lensovet, Department of the Chemistry
and Technology of High-Grade Ceramics

"The Effect of Nitrogen on Certain Properties of Zirconium Carbide in the
Homogeneity Region"

Ivanovo, Izvestiya Vysshikh Uchebnykh Zavedeniy, Khimiya i Khimicheskaya
Tekhnologiya, Vol XIII, No 10, 1970, pp 1,389-1,392

Abstract: It is known that existing methods of preparing zirconium carbide
(and also the monocarbides of the transition metals of groups IV-VI) do not
yield products of desired purity, owing to the presence of unbound carbon
(up to 1.5-2.0%), nitrogen and oxygen; but the effects of these impurities
have not been well studied.

The authors made a roentgenographic and metallographic study of the specific
effect of the presence of nitrogen in zirconium carbide.

Data were obtained on the relationship between nitrogen content and the
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USSR

AVGUSTINIK, A. I., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Khimiy i Khimicheskaya Tekhnologiya, Vol XIII, No 10, 1970, pp 1,389-1,392

following aspects of zirconium carbonitrides: (1) crystal lattice parameter; (2) crystal lattice parameter, with constant carbon content; (3) electrical conductivity; (4) thermal emf; (5) melting temperature; (6) microhardness; and (7) thermal conductivity. All data are illustrated graphically.

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- 14 -

KLIMCHUK, A.S.

MEDICAL SERVICE

J-9605

123

501 Bulfinch Medical Journal

1971 1972

Major of the Medical Service, Medical Service, On the prophylaxis of trauma occurring on surface ships.

In order to increase the effectiveness of the effort to maintain the health of naval personnel at sea, we have worked out the form of a monthly written report to be submitted by the shipboard physician to the commander of the ship, dealing with any alterations or trauma -- including a complete analysis of their relationship to the length of service of sailors and non-commissioned officers, as well as any connection with their specialty. Such reports make it possible for the commander to take timely and concrete measures to eliminate health causes of the trauma. Each case of a trauma is thoroughly investigated: the circumstances and cause of their development, as a rule, discussed at service conferences, as well as by members of the party and command groups, being presented extensively in this connection are talks and lectures which also specify cases of trauma which had occurred on some specific ship. These special conferences are carried out annually on the theme "Trauma and the prophylaxis aboard ships". Taking part in this work are physicians, ship commanders, and political workers. The principal aim of the conference is to provide a profound analysis of traumas aboard ships and to outline specific measures to lower its incidence. Devoted to the same purpose are also photographic exhibits, display stands, health bulletins, newspaper articles and other materials. The conference serves as a useful school for all participants -- especially for young shipboard physicians. This work has permitted a significant lowering of the incidence of trauma aboard surface ships.

Received in March 1970.

Acc. Nr.

AP0034228

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

MR 0078

K

74258y Bis(tricyanophosphine)decaborane. Kuznetsov, N. T.; Klimchuk, G. S. (Inst. Obshch. Neorg. Khim. im. Kurnakova, Moscow, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 263-5 (Russ). $B_{10}H_{12}$ reacts with $P(CN)_3$ in C_6H_6 in an Ar atm. to form $B_{10}H_{12}[P(CN)_3]_2$ (I), having $\nu(B-H)$ shifted 20-25 cm^{-1} toward lower frequencies compared to $B_{10}H_{12}$. $\nu(CN)$ shifts from 2210 cm^{-1} in $P(CN)_3$ to 2300 cm^{-1} in I. This proves coordination to $B_{10}H_{12}$ via N atoms of the CN groups. I decomp. exothermally at $\geq 120^\circ$. HMJR

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REEL/FRAME

19710881

de

USSR

UDC 62.-752.4:53.082.52

KOVAL', S. T., Candidate of Sciences, KLIMCHUK, L. S., OSMOLOVSKIY, Yu. F.,
SIGIDA, Yu. A.

"Influence of Rotary Picture on the Accuracy of a Photoelectric Angle Meter
in a Nongimbal Electrostatic Gyroscope"

Optiko Mekhanicheskaya Promyshlennost', No 12, 1972, pp 8-11.

Abstract: The use of the so-called "exotic" gyroscopes is primarily related to the problem of coupling of the body of the gyroscope to an isolated spherical rotor, which can be successfully solved using photoelectric devices. Among the many photoelectric devices for determination of information on the relative position of the axis of rotation of the spherical rotor in a non-gimbal gyroscope, pulse-width systems provide comparative simplicity of determination of the direction cosines $\cos \lambda$, $\cos \mu$ and $\cos \nu$. This article produces a general formula which can be used to determine the accuracy of a photoelectric system. Various rotor pictures are analyzed using this formula. With otherwise equivalent conditions, the minimum error in calculation of the latitude angle is provided where $\cos \lambda = t_{\lambda}/T$, $F(\lambda) = -1/T$, $V_{\lambda} = 1/\sqrt{1 + 4\pi^2 \sin^4 \lambda}$, $\Delta \cos \lambda = \tau k / \rho T \sqrt{1 + 4\pi^2 \sin^4 \lambda} / \sin \lambda$.

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USSR

UDC 621.396.674.3.095

IVANOV, YE.A., KLIMCHUK, S.E.

"The Field Of Radiation Of A Longitudinal Magnetic Dipole In The Presence Of A Plane Screen And Of A Circular Cylinder Parallel To It"

Radiotekhnika i elektronika, Vol XVII, No 3, March 1972, pp 454-462

Abstract: The problem is solved of the field of radiation of a longitudinal magnetic dipole in the presence of a reflecting structure consisting of an unbounded plane screen and of an ideally conducting infinitely long circular cylinder parallel to it. The moment of the dipole is parallel to the plane screen and the axis of the cylinder. The problem is solved in polar coordinates on the basis of the method of separation of variables and the method of mirror images. The results of a numerical calculation are presented for various values of the parameters which determine the behavior of the field in the wave zone. The results are also shown as antenna directional diagrams. 6 fig. 5 ref. Received by editors 8 Feb 1971.

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USSR

UDC 621.396.674.3.095

KLIMCHUK, S. F., Institute of Mathematics, Belorussian SSR Academy of Sciences

"The Field of Radiation of a Longitudinal Electric Dipole in the Presence of a Plane Screen and a Circular Cylinder Parallel to It"

Minsk, Vestsi Akademii Navuk BSSR, Series on the Physical Mathematical Sciences, No 6, 1973, pp 49-55

Abstract: In Radiotekhnika i Elektronika, Vol 17, No 3, 1972, Ye. A. Ivanov and the author calculated the radiation of a longitudinal magnetic dipole located close to an ideal, plane, infinite conducting screen and an ideal, infinitely long, round conducting cylinder parallel to it. This article discusses the analogous problem for an electric dipole.

The formal calculations yield an infinite system of linear equations similar to system 19 in the previous publication; but, as in that case, the equation is not very suitable for numerical calculations, since it depends on the parameter h which varies continuously from minus infinity to plus infinity, while the calculations, in practice, can be performed only for discrete values of h . This defect is eliminated in the wave zone by the use of an approximation expression.

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USSR

KLIMCHUK, S. F., Vestsi Akademii Navuk BSSR, Series on the Physical Mathematical Sciences, No 6, 1973, pp 49-55

The calculations for various values of the parameters have been performed on a Minsk-22 computer. Three sets of lobe diagrams are provided: Figure 2, showing the result when the dipole remains at a constant distance from the cylinder and the distance between the cylinder and screen varies; Figure 3, showing the results as the distance between the dipole and the cylinder is changed, with the cylinder of constant dimension and position with respect to the screen; Figure 4, showing the effect of moving the dipole around the cylinder.

It is evident that the introduction of the cylinder increases the directionality of radiation of the system and permits control of the characteristics of radiation of the dipole: direction, strength in various directions. Finally, it is noted that the method of calculation used is valid for a fairly wide range of parameters.

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(4)

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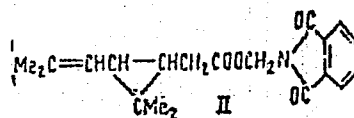
UDC 632.95

BESSONOVA, I. V., VASHKOV, V. I., VOLKOV, Yu. P., VOLKOVA, A. P., ZHUK, Ye. B.,
TSETLIN, V. M., KLIMENCHUK, V. I., POZHARSKAYA, Ye. B.

"An Insecticide Composition"

USSR Author's Certificate No 288800, filed 13/05/69, published 17/03/72
(Translated from Referativnyy Zhurnal Khimiy, No 24(II), 1972, Abstract No
24N593 P, by T. A. Balyayeva)

Translation: An insecticide is suggested, containing as its active ingredient a synergistic mixture of O, O-dimethyl O-(2,2,-dichlorovinyl) phosphate (I) and an analog of the pyrethrins of the formula



(II). Results are presented from determination of the degree of synergism and the insecticidal activity on houseflies. The composition of an aerosol can include I, II, xylene, kerosene and a mixture of freons. The prepareate is nontoxic for warm blooded animals.

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USSR

UDC 632.95

BRIKMAN, L. I., TSETLIN, V. M., ROGINSKAYA, Ye. Ya., ZHUK, Ye. B., VOLKOVA, A. P., VORONKINA, T. M., KLIMENCHUK, V. I., POZHARSKAYA, Ye. B.

"Compound for Controlling Household Insects"

USSR Author's Certificate No 340384, filed 15 Feb 71, published 23 Jun 72
(from RZH-Khimiya, No 2 (II), Feb 73, Abstract No 2N486)

Translation: The compound for controlling cockroaches, clones and moths contains the following (in % by weight): γ -hexachlorocyclohexane 0.19%; DDT 1.71%; DDVF 0.6%; xylol 5%; a mixture of CF_2Cl_2 (freon-12) and CFCl_3 (freon-II) 55% and kerosene to 100%.

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